

SAFETY INFORMATION
CAUTION: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT REMOVE THE COVER. ONLY QUALIFIED PERSONNEL SHOULD SERVICED THIS EQUIPMENT.
ROTTEL hi fi

ROTTEL *hi fi*

RB991

Stereo Power Amplifier
with RCA & XLR Inputs

OWNERS MANUAL

Please write the serial number, date of purchase and the name of **Rotel hi fi Authorized Dealer** in the spaces provided for your future reference.

Serial number _____, Purchase date _____.

Rotel hi fi Authorized Dealer _____.

SAFETY INSTRUCTIONS

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER(OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

• Explanation of Graphical Symbols



The lightning bolt with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (including instructions in the literature accompanying the appliance).

- 1. Read Instructions** - All the safety and operating instructions should be read before the appliance is operated.
- 2. Retain Instructions** - The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings** - All warnings on the appliance and in the operating instructions should be adhered to.
- 4. Follow Instructions** - All operating and other instructions should be followed.
- 5. Water and Moisture** - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimmingpool, etc.
- 6. Carts and Stands** - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

PORTABLE CART WARNING



EE1254

- 7. Wall or Ceiling Mounting** - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 8. Ventilation** - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- 9. Heat** - The appliance should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.

APPLICABLE FOR USA, CANADA OR WHERE APPROVED TO THE USAGE

CAUTION : TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT, INSERT FULLY.

ATTENTION : POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

- 10. Power Source** - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
- 11. Power-Cord Protection** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
- 12. Cleaning** - The appliance should be cleaned only as recommended by the manufacturer.
- 13. Nonuse Periods** - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
- 14. Object and Liquid Entry** - Care should be taken so that objects do not fall into and liquids not spilled into the inside of the appliance.
- 15. Damage Requiring Service** - The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the cabinet damaged.
- 16. Servicing** - The user should not attempt to service the appliance beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.
- 17. Grounding or Polarization** - The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.

A WORD FROM ALL OF US AT ROTEL

Thank you for purchasing our RB 991 stereo power amplifier. This replaces our highly acclaimed RB 990BX power amplifier. We have been designing and manufacturing high quality, high performance audio electronics for more than 35 years. We are famous for our love of music and our passion for good sound. This power amplifier was designed to offer lifelike sound and is a natural extension of our love of music. If the RB 991 is used with the companion RB 993, a 3-channel power amplifier, it will be an excellent foundation for a superb surround sound or music system. We believe that the music and soundtracks played through this amplifier will be a source of enjoyment to you for many years to come. We designed this amplifier to be durable, easy to operate and to have high fidelity to the original sound. Please read this owners manual to ensure that the amplifier is properly installed. We appreciate being a part of your life.

RB 991 DESIGN FEATURES

Our new front panel look reflects the fact that we have made some important changes to this amplifier. A couple of examples would be the toroidal power transformer of our own design and manufacture and the inclusion of balanced XLR inputs. The massive power supply is derived from a large Rotel toroidal power transformer. The RB 991 has a highly regulated power supply to ensure maximum power capability into difficult speaker loads. This type of design is more expensive to manufacture but it is better for the music. This power amplifier will drive 4-ohm rated speakers very well. All aspects of this design have been examined with the final goals being stability when driving low impedance or adverse speaker loads and the faithful reproduction of music.

This is an excellent amplifier for music listening, surround sound or multi-room custom installations. We have designed the printed circuit boards (PCB) with symmetrical circuit traces. This insures that the precise timing of the music is maintained and faithfully recreated. Circuit traces of different lengths change the timing between the channels slightly. This degradation of signal coherence is unacceptable to us. The PCB circuit traces are used to transfer the delicate audio signals because we feel this is more consistent than using wire jumpers for this purpose. The PCB contains metal film resistors and polystyrene or polypropylene capacitors in sonically selected locations.

WHERE TO FIND INFORMATION IN THIS OWNERS MANUAL

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RB 991 INSTALLATION

Please place the unit on a DRY level surface, away from direct sunlight. Please do not stack other components on top of the RB 991 as they may cause the amplifier to overheat. We suggest 75 mm (~3") as a minimum clearance above the RB 991. If the amplifier is installed inside a cabinet, please be certain that there is adequate airflow or a cooling fan to ensure proper cooling. Do not allow water

or objects to fall into the amplifier, as these will damage the circuitry. Avoid installing the amplifier in a location where excessive humidity, vibration or moisture will be a problem. We recommend installing the RB 991 in furniture designed to house hi fi components.

Audio component furniture will reduce or suppress vibration. All audio components will provide improved sound when free from vibration. Ask your ROTEL hi fi AUTHORIZED DEALER for advice about component furniture and proper installation of audio components. Please be careful to keep digital, video or audio signal cables and the power cords separated in your installation. This will minimize the chance of interference from the power cords or digital cables getting into the analog or video signal cables. We recommend high quality shielded cables in sound systems to minimize any potential interference.

ELECTRICAL REQUIREMENTS

This amplifier is designed to operate on AC voltage and the correct voltage is displayed on the back panel. Do not attempt to operate the amplifier on incorrect voltage as this will damage the circuitry and void your warranty. If you are in doubt about the correct voltage for this amplifier we suggest reading the label on the back panel or consult your ROTEL hi fi AUTHORIZED DEALER for confirmation of the correct voltage. Connect the POWER CORD to your wall socket for AC power. When you wish to disconnect the power cord from the wall, grasp the plug firmly in your hand to pull it out of the wall socket. Do not unplug the power cord by pulling the cord only. This may damage the power cord and create a hazardous condition. We strongly recommend that the amplifier be connected to the main's wall socket or an AC power line filter, not an extension cord.

If you wish to clean the cabinet, we suggest a clean, soft DRY cloth. Never use cleaning compounds or solvents to clean the cabinet as they may damage the finish or remove the labels. These could damage the circuitry if any residue falls inside the amplifier. There is NO user serviceable part inside this amplifier. Please do not open the cabinet, as this will expose you to the risk of potentially dangerous voltage and the risk of electric shock.

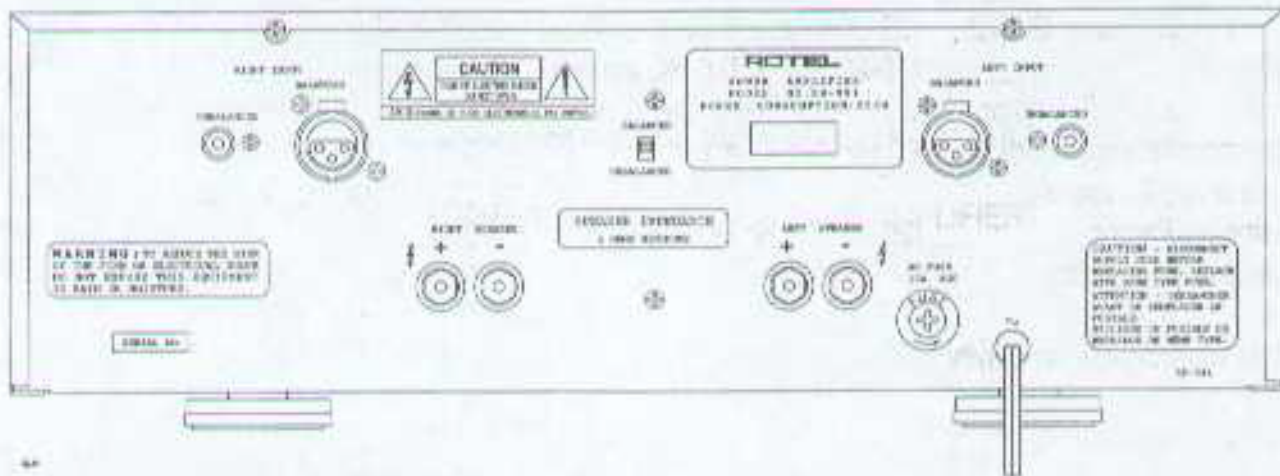
FRONT PANEL



FRONT PANEL CONTROLS / INDICATOR LIGHTS

The front panel includes the POWER button, the POWER and PROTECTION indicator lights. Press the POWER button once, the amplifier will turn ON, the POWER and PROTECTION (briefly) indicator lights will illuminate. Press it again, the amplifier will turn OFF and all the indicator lights will extinguish.

REAR PANEL



REAR PANEL CONNECTIONS

When connecting the amplifier, please be certain to connect the correct inputs to the appropriate left or right (R, L) channels from your preamplifier or processor outputs to avoid incorrect channel placement during playback of your favorite music or movies. If you are using the XLR/Balanced inputs, please switch the back panel selector switch to the **BALANCED** input setting. The **SPEAKER** terminals are color coded to help with you make correct connections. The speaker terminals are red for positive (+) and black for negative (-) connections. Most speakers have the same color coding system for these connections. Please ensure these connections are correct before turning the amplifier **ON** for the first time. Incorrect phase connections (amplifier + to speaker - in one of the channels, for example.) won't harm anything but will result in little or no bass response in your system.

The **SPEAKER** terminals will accept spade connectors, bare wire or "banana" plugs (Non CE mark countries) for speaker connections. Regardless of the type of speaker wire connection made, please check to see that no stray wires are touching between the positive and negative speaker terminals for each channel. This will cause an internal protection fuse to fail, and the amplifier will not play.

Please remember that this is a high-powered amplifier and turn it off before making any changes to the connections or unplugging any input cables. This will avoid any potential damage to the delicate tweeters in your speakers. Transient sounds may occur when connecting or disconnecting input patch cables if a power amplifier is on.

A FEW FINAL WORDS FROM THE PEOPLE AT ROTEL

We have designed this amplifier using high performance test equipment and highly trained human ears. We believe both methods are useful in the design of high fidelity audio electronics. This method of design and manufacturing is time consuming but we feel the music benefits from this care and attention to detail. With our reputation for excellent reliability and sound quality, you can be certain that the RB 991 represents excellent value for your money. We realize that there are many choices available and we thank you again for choosing the RB 991 for use in your sound system. Enjoy the music!

SPECIFICATIONS:

Continuous Power Output	(20-20 kHz, $\leq 0.03\%$, 8 ohms)	200 watts/ch.
	(20-20 kHz, $\leq 0.05\%$, 4 ohms)	300 watts/ch.
Total Harmonic Distortion	(20 Hz-20 kHz, 8 ohms)	$\leq 0.03\%$
Intermodulation Distortion	(60 Hz: 7 kHz, 4:1)	$\leq 0.03\%$
Frequency Response		$\geq 10-100,000$ Hz, ± 1 dB
Damping Factor	(20-20,000 Hz, 8 ohms)	≥ 500
Speaker Impedance		4-16 ohms
Signal to Noise Ratio	(IHF A network)	120 dB
Input Impedance/Sensitivity	(RCA Inputs)	33 k Ohms/1.0 volt
(XLR Inputs)		33k Ohms/1.0 volt
Power Requirements		115 Volts, 60 Hz or 230 Volts, 50 Hz
Power Consumption		550 Watts
Dimensions (W, H, D)		440 x 127 x 385 mm 17.38 x 4.76 x 15.16"
Weight (net)		16.7 kg., 36.74 lb.

All specifications are accurate at the time of printing. Rotel reserves the right to make improvements without notice.

SYSTEM TROUBLESHOOTING HINTS

NO POWER

IS THE AC CORD CONNECTED TO A SWITCHED AC OUTLET?
IS THE SWITCHED AC OUTLET TURNED ON?
CHECK THE POWER FUSE FOR THE AC OUTLET.

NO SOUND

CORRECT INPUT SELECTED? IS THE AMPLIFIER
TURNED ON? IS THE SOURCE COMPONENT TURNED ON?
IS THE SOURCE COMPONENT CONNECTED PROPERLY?
ARE THE SPEAKER WIRES CONNECTED PROPERLY?

NO BASS

IS THE SUBWOOFER AMPLIFIER TURNED ON?
IS THE POWERED SUBWOOFER TURNED ON?
ARE THE "WOOFERS" IN YOUR SPEAKERS DAMAGED?
ARE THE SPEAKERS WIRED CORRECTLY FOR PHASE?

POOR TRACKING (CD PLAYER)

IS THE DISC DIRTY OR SCRATCHED? IS THE DISC
SEVERELY WARPED? IS THE DISC SEMI-TRANSPARENT OR
POORLY MADE WITH VISIBLE "PIN" HOLES? IS THE CD
CRACKED?

POOR, DULL SOUND WOW & FLUTTER (TAPE DECK)

ARE THE HEADS DIRTY? HEADS MAGNETIZED FROM LONG
USAGE WITHOUT DEMAGNETIZING? ARE THE PINCH
ROLLER AND THE CAPSTAN DIRTY? *CLEAN WITH PURE
ALCOHOL, "Q" TIP COTTON BUDS OR A TAPE DECK
CLEANING KIT. DEMAGNETIZE THE HEADS WITH A HAND
HELD DEMAGNETIZER. DO NOT USE ABRASIVE DRY
CLEANERS!*

DISTORTED BASS

OVERLOADING SMALL SPEAKERS?
TOO LOUD VOLUME "CLIPPING" YOUR AMPLIFIER?

"HUM" IN SYSTEM

AC CORD, VIDEO, DIGITAL AND AUDIO CABLES TOUCHING?
THE AC CORD SHOULD BE SEPARATE FROM SIGNAL CABLES
SIGNAL CABLES LAYING NEAR A LARGE POWER
TRANSFORMER, SUCH AS IN A POWER AMPLIFIER?
DEFECTIVE OR UNSHIELDED SIGNAL CABLES?

OVERHEATING

IS ANOTHER COMPONENT STACKED ON THE AMPLIFIER?
IS THE AMPLIFIER ENCLOSED IN A SMALL SPACE? A
MINIMUM OF 3 TO 4" (~8-10 CM) CLEARANCE IS NEEDED
ABOVE THE AMPLIFIER IN A SYSTEM. *DO NOT STACK*
COMPONENTS ON THE AMPLIFIER. AN AMPLIFIER NEEDS TO
"BREATHE" FREELY TO STAY COOL.

POOR RECEPTION
(FM RADIO)

IS THE ANTENNA CONNECTED PROPERLY? IS THE
ANTENNA MOUNTED AS HIGH AS POSSIBLE? IS THE
ANTENNA ORIENTED FOR BEST RECEPTION? IS THE FM
STATION DISTANT? *AN OUTDOOR ANTENNA MAY BE*
NECESSARY. ADJUST THE ANTENNA FOR BEST RECEPTION.

NOISY RECEPTION
(AM RADIO)

IS THE ANTENNA CONNECTED PROPERLY? IS THERE A
LARGE ELECTRICAL MOTOR, COMPUTER OR COMPRESSOR
NEAR THE TUNER OR ANTENNA? *NOISE IS EASILY RECEIVED*
IN THE AM BAND. ADJUST THE AM ANTENNA FOR BEST
RECEPTION AND MINIMUM INTERFERENCE.

CONTINUED PROBLEMS? ASK YOUR ROTEL hi fi AUTHORIZED DEALER FOR HELP.

ROTEL *hi fi*

THE ROTEL CO., LTD.

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